

L7 ANSWER 3 OF 3 MEDLINE  
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 TI GDNF: a **glial cell line-derived**  
**neurotrophic factor** for **midbrain** dopaminergic  
 neurons.  
 CM Comment in: Science. 1993 May 21;260(5111):1072  
 AU Lin L F; Doherty D H; Lile J D; Bektesh S; Collins F  
 CS Synergen, Inc., Boulder, CO 80301.  
 SO SCIENCE, (1993 May 21) 260 (5111) 1130-2.  
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 AB A potent neurotrophic factor that enhances survival of midbrain  
 dopaminergic neurons was purified and cloned. Glial cell line-derived  
 neurotrophic factor (GDNF) is a glycosylated, disulfide-bonded homodimer  
 that is a distantly related member of the transforming growth factor-beta  
 superfamily. In embryonic midbrain cultures, recombinant human GDNF  
 promoted the survival and morphological differentiation of dopaminergic  
 neurons and increased their high-affinity dopamine uptake. These effects  
 were relatively specific; GDNF did not increase total neuron or astrocyte  
 numbers nor did it increase transmitter uptake by gamma-aminobutyric-  
 containing and serotonergic neurons. GDNF may have utility in the  
 treatment of Parkinson's disease, which is marked by progressive  
 degeneration of midbrain dopaminergic neurons.